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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,910	02/20/2004	Eric Peyrucain	17307.04104	5420

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EXAMINER

HOLZEN, STEPHEN A

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/781,910	PEYRUCAIN ET AL.	
	Examiner	Art Unit	
	Stephen A. Holzen	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 5/15/2006 have been fully considered but they are not persuasive. Applicant has essentially made three arguments:
 - a. The office is using hindsight.
 - b. 46 other cited references do not anticipate the reference, therefore it is allowable
 - c. That it is not inherent that an autopilot selects an appropriate landing mode.
2. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).
3. The fact that no specific reference anticipates the reference is of no consequence since the examiner has made an obvious type rejection. Since applicant has not addressed the combination of the references, and instead attacked each

reference (or every cited reference) this argument is moot. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

4. An autopilot is a mechanical, electrical, or hydraulic system used to guide a vehicle without assistance from a human being. Modern autopilots generally divide a flight into taxi, take-off, ascent, level, descent, approach, landing, and taxi phases. Autopilots automate all of these flight phases except the taxiing.¹ Applicant did not address the examiner's position that Autopilots inherently selects an appropriate landing course. This is inherent, since Autopilots were designed for increasing the safety of the plane, and it would not be designed such that they would crash the plane.

5. Claims 21-38 are pending

6. No Claims are withdrawn

7. Claims 21-38 are finally rejected.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

¹ "Autopilot." Wikipedia, The Free Encyclopedia. 29 Jun 2006, 18:23 UTC. Wikimedia Foundation, Inc. 11 Jul 2006 <<http://en.wikipedia.org/w/index.php?title=Autopilot&oldid=61237398>>.

Art Unit: 3644

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 21-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harenberg in view of Brenner and further in view of Adams.

Harenberg discloses a method that operates the following steps simultaneously: verifying conditions relating to the correct function of a plurality of equipment of the aircraft and to the integrity and precision of measurements of parameters used for implementing the non-precision approach, based on information coming from the plurality of equipment (see Col. 3, lines 44-47), selecting an appropriate approach (see Col. 3, lines 1-6, and inherent), presenting the selected approach category on a display screen (display 15), wherein each non-precision approach category defines the approach mode is an assisted approach modes (see Col. 2, line 42)

It is inherent that an aircraft autopilot selects the most appropriate landing routine to safely land the aircraft. An autopilot will take into consideration the instant parameters of flights (speed, altitude, air conditions, rate of decent, weather conditions, and wind speed).

Harenberg et al discloses a performance and failure assessment monitor #12. The failure assessment monitor is connected to "literally hundreds of inputs from sensors (each necessarily having their own circuitry and control) throughout the aircraft. The monitor operates on these inputs to generate signal representative of the position of the aircraft with respect to the runway. (see Col. 1, lines 58-65). Necessarily the autopilot of Harenberg would include:

gyroscopes, air temperature sensors, wind speed sensors, fuel gauges, airspeed, groundspeed, altitude sensors, and horizontal distance sensors.

Harenberg et al does not teach selecting one of a plurality of different non-precision approach categories based on the verified conditions

Brenner teaches: "In view of the varying accuracy, many global positioning systems, particularly those for aircraft navigation, include a subsystem for detecting accuracy faults, or failures. The subsystem, known as a receiver autonomous integrity monitor (RAIM), determines a statistical worst-case error for the position solution and compares it to a standard, called an alarm limit, which defines a maximum allowable radial error for the global positioning system." The navigation system further includes inertial sensors for providing vehicle motion data to the processor. And, the processor employs Kalman filters to determine the position solution, subsolutions, and error bound, from the motion data as well as past and present values of the signals. The sensors preferably include accelerometers for providing acceleration data, gyroscopes for providing attitude data, and an altimeter for providing altitude data. RAIM is essentially a fault detection scheme that is applied to the GPS measurements. Traditional RAIM uses fault detection only (FD) however newer GPS receivers incorporate Fault Detection and Exclusion (FDE).

It would have been obvious to use RAIM fault detection schemes as taught by Brenner for the purpose of continuing operations in the presence of GPS Failures.

Neither Harenberg nor Brenner teach selecting different approach modes based on the integrity of the position and operating systems.

Adams (6,314,343) teaches an aircraft flight mode selector system of having a display screen including a plurality of general flight mode fields in which selected general flight modes are displayed, and a plurality of specific flight mode fields in which available categories of the general flight modes are displayed. The general flight mode field displays are controlled by first switches, and wherein specific flight mode displays are controlled by second switches. It would have been obvious therefore to gate the approach mode categories based on the verified flight and systems conditions for the purpose of increasing crew/pilot safety.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 571-272-6903. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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